

SOLVE BY FACTORING

$$x^2 - 5x + 6 = 0$$

$$-2 + -3 = -5$$

$$(-2)(-3) = 6$$

$$(x-2)(x-3) = 0$$

$$x-2 = 0$$

$$x_1 = 2$$

$$x-3 = 0$$

$$x_2 = 3$$

$$x^2 + 5x - 6 = 0$$

CANNOT  
FACTOR

$$1 \cdot x^2 - 5x + 6 = 0$$

ALL TERMS HAVE TO BE ON THE LEFT SIDE

$ax^2 + bx + c = 0$  GENERAL FORM OF A QUADRATIC EQUATION

$$a = 1 \quad b = -5 \quad c = 6$$

$$x_1 = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

CHANGE  
B SIGN

$$x_2 = \frac{5 \pm 1}{2} = \frac{6}{2} = 3$$

$$x_1 = \frac{5 - \sqrt{5^2 - 4 \cdot 1 \cdot 6}}{2 \cdot 1} = \frac{5 - \sqrt{25 - 24}}{2} = \frac{5 - 1}{2} = 2$$

PRACTICE #11       $a=1$   $b=6$   $c=0$   
p.311

#13  $(x-4)(x+5)=7$       ((    ))

$$x^2 + 5x - 4x - 20 = 7$$

$$x^2 + x - 20 = 7$$

-7    -7

$$x^2 + x - 27 = 0$$

$$a=1 \quad b=1 \quad c=-27$$

$$x_1 = \frac{-1 - \sqrt{1^2 - 4 \cdot 1 \cdot (-27)}}{2 \cdot 1}$$
$$x_2 = \frac{-1 + \sqrt{1^2 - 4 \cdot 1 \cdot (-27)}}{2 \cdot 1}$$

#17 p. 311  $x^2 - 5x - 24 = 0$

$$x_1 = \frac{5 - \sqrt{5^2 - 4 \cdot 1 \cdot (-24)}}{2 \cdot 1}$$

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HOME: p. 311 10, 12, 14, 16, 26

#12  $(x+1)(x-2) = 5$

$$x^2 - 2x + x - 2 = 5$$

$$x^2 - x - 2 = 5$$

$$x^2 - x - 7 = 0$$

$$a=1 \quad b=-1 \quad c=-7$$

#16  $x^2 + 9x - 2 = -16$   $x^2 + 9x + 14 = 0$   
 $\quad \quad \quad +16 \quad \quad +16$